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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/892,773 | 06/28/2001 | Shohei Moriwaki | 57454-160 | 3426 |

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600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

SEALEY, LANCE W

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2671

DATE MAILED: 08/06/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,773

Applicant(s)

MORIWAKI ET AL.

Examiner

Lance W. Sealey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 3-9 and 13-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Allowed and Allowable Subject Matter

1. Claims 3-9 and 13-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. No prior art anticipates or suggests a three-dimensional graphics drawing apparatus wherein said transmittance setting unit uses a monotone increasing function of the depth coordinate value of the object to calculate the transmittance of the relevant object (claims 3, 7, 13 and 17), or wherein said transmittance setting unit uses a reciprocal of the depth coordinate value of the object to calculate the transmittance of the relevant object (claims 5, 9, 15 and 19), or wherein said transmittance setting unit sets the depth coordinate value of the object as the transmittance of the relevant object when the depth coordinate value of the object is not greater than a threshold value, and sets a prescribed value as the transmittance of the object when the depth coordinate value of the relevant object exceeds the threshold value (claims 6 and 16). Claims 4 and 14 are allowable because they depend on allowable claims 3 and 13, respectively; claims 8 and 18 are allowable because they depend on allowable claims 7 and 17.

Claim Rejections - 35 USC § 102

2. The following is a quotation of 35 U.S.C. 102(b) which forms the basis for all novelty-related rejections set forth in this Office action:

A person shall be entitled to a patent unless—

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or sale in this country, more than one year prior to the date of application for patent in the United States.

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3. Claims 1 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hashimoto (U.S. Pat. No. 5,896,134):

4. Hashimoto, in disclosing a z buffer hidden surface removal device, also discloses a three-dimensional graphics drawing apparatus drawing an object based on color data and coordinate data, comprising:

- a transmittance setting unit setting transmittance of the object based on a depth coordinate value included in said coordinate data (col.4, ll.11-12); and
- a drawing unit drawing the object based on the color data including the transmittance set by said transmittance setting unit and said coordinate data (col.3, ll.37-43).

5. Therefore, in view of the foregoing, claims 1 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hashimoto.

6. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Paris, II ("Paris", U.S. Pat. No. 5,088,054).

7. Paris, in disclosing a hidden surface removal system, also discloses a three-dimensional graphics drawing apparatus drawing an object based on color data and coordinate data including a depth coordinate value (col.2, ll.34-40), comprising: a color register storing the color data of the object (col.2, ll.40-41); a color data setting unit setting the color data of the object in said color register when the depth coordinate value of the relevant object is not greater than a threshold value, and setting a prescribed value in said color register when the depth coordinate

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value of the relevant object exceeds the threshold value (col.2, ll.41-58. The "setting of the color data in the color register when the depth coordinate value of the relevant object is not greater than a threshold value" occurs at ll.41-43. The "threshold value" is the relative depth of the old object at the subject point--see ll.49-51. The "prescribed value set in the color register" is the new color information--see ll.57-58.); and a drawing unit drawing the object based on the color data stored in said color register and said coordinate data.

8. Therefore, in view of the foregoing, claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Paris.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto.

11. Hashimoto does not explicitly disclose, with respect to both claims, a three-dimensional graphics drawing apparatus wherein said transmittance setting unit sets the depth coordinate

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value of the object as the transmittance of the relevant object. However, as stated in the rejection of claim 1 above, Hashimoto does disclose the ability to set a transmittance value (col.4, ll.11-12). Furthermore, the applicants' specification states, at p.4, ll.1-8, that the Z-coordinate value is set to the transmittance value so that a drawing object on a display image becomes more transparent as its Z-coordinate value becomes smaller, i.e., the drawing object comes closer to the front. But this would be obvious whether or not the Z-coordinate value was set to the transmittance value, and Hashimoto recognizes this (col.8, ll.36-39).

12. Accordingly, in view of the foregoing, claim 2 is rejected as being unpatentable under 35 U.S.C. 103 by Hashimoto.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lance Sealey whose telephone number is (703) 305-0026. The examiner can normally be reached Monday-Friday from 7:00 am to 3:30 pm EDT.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached on (703) 305-9798. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

15. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700 or the Customer Service Office at (703) 306-0377.

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Matthew C. Bella

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